IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	**Mail Stop APPEAL BRIEF - PATENTS**
Kent MALMGREN et al.	Group Art Unit: 1771
Application No.: 09/651,130	Examiner: Victor S. Chang
Filed: August 30, 2000	Confirmation No. 1064
For: ABSORBENT FOAM MATERIAL, A METHOD OF PRODUCING IT AND AN ABSORBENT STRUCTURE CONTAINING SAID FOAM MATERIAL	Appeal No.: 1

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
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REPLY BRIEF

This Reply Brief is in response to the Examiner's Answer, mailed on October 6, 2005, that was filed in response to the Appeal Brief that was filed on August 31, 2005 in connection with the above-identified application.

Reply to Examiner's Answer at Page 6, lines 2-6

In the Examiner's Answer, the Examiner asserts that "Chen does expressly teach that progressively smaller pores are desirable." *Examiner's Answer, Page 6.*

However, *Chen et al.* does not teach a continuous trend of smaller and smaller pores sizes. The Examiner appears to be relying on a disclosure in *Chen et al.*, at Column 42, lines 31-38, of

> the absolute diameter of the cells defined by the foamable binder material can be about 3 mm [3000 μm] or less; specifically about 1 mm [1000 μm] or less, more specifically about 0.3 mm [300 μm] or less, still more specifically about 0.1 mm [100 μm] or less, and most specifically from about 0.02 mm to about 0.2 mm [20 μm to about 200 μm].

This does not teach a continuous trend of smaller and smaller pore sizes, but rather teaches specific ranges. The disclosed ranges have a lower disclosed limit of 20 μm, and *Chen et al.* does not teach that pore sizes should be made progressively smaller past 20 μm. The simple inclusion of "or less" does not provide a disclosure of each and every pore size under 3000 μm all the way to zero.

When read as a whole, it is clear to one skilled in the art that *Chen et al.* does not contemplate a pore size less than 20 μm. No other discussion in *Chen et al.* demonstrates a teaching of material with a pore size less than 20 μm. Examples 1-6 in *Chen et al.*, at Columns 43-48, do not disclose material with a pore size less than 20 μm. None of Examples 1-6 in *Chen et al.* teach methods that would appear to overcome the difficulties of producing material having a pore size less than 20 μm.

Thus, *Chen et al.* does not expressly teach that progressively smaller pores are desirable.

Reply to Examiner's Answer at Page 6, lines 13-15

In the Examiner's Answer, the Examiner asserts that "the end point of 0 μm of the instantly claimed limitation inherently reads on the un-voided portion of Chen's swellable formed binder as claimed...." *Examiner's Answer, Page 6.*

Applicants note that the present claims include a limitation that the foam has "pore sizes between 0 and 3 μm." 0 μm is not a claimed limit.

Applicants also note that asserting a pore with a size of 0 μm is a specious argument. At that point there is no pore that exists to measure. Thus, the assertion has no bearing on the present claims.

Reply to Examiner's Answer at Page 6, lines 16-20

In the Examiner's Answer, the Examiner asserts that the disclosure in *Chen et al.* of "most specifically from about 0.02 mm to about 0.2 mm is clearly directed to a preferable or most populous range of pore size ... [and] nowhere does Chen state that such a range is limiting." *Examiner's Answer, Page 6.*

While *Chen et al.* does not explicitly state that the range of 0.02 mm to about 0.2 mm is limiting, applicants simply note that 0.02 mm [20 μm] is the smallest disclosed pore size. *Chen et al.* does not expressly recite a pore size below 20 μm.

Reply to Examiner's Answer at Page 7, lines 1-12

In the Examiner's Answer, the Examiner asserts that the difference between "gel liquid" and "capillary liquid" is merely semantics and thus the ability of "gel liquid" storage appears to be inherent. *Examiner's Answer, Page 7.*

While "gel liquid" has been defined as "liquid held in pores smaller than 3 μm" this is not an arbitrary limit.

Gel liquid is a liquid that is in a different form of storage from capillary liquid. Gel liquid is firmly bound in cells by the swelling cell walls. *See Specification, page 2, lines 29-37.* This liquid is physically distinct from the loosely bound capillary liquid. The physical difference is demonstrated when measuring liquid storage capacity by centrifuge retention capacity, in which saturated foam is centrifuged to remove loosely bound capillary liquid. After centrifuging, primarily gel liquid remains. This demonstrates that there is a physical, measurable difference between gel liquid and capillary liquid. The difference between "gel liquid" and "capillary liquid" is not, therefore, merely semantics.

The presently claimed invention recites that the foam material has a distribution of pore sizes between 0 and 3 μm and an absorption rate at wetting of at

least 0.4 ml/s for a round sample having a 50 mm diameter, a liquid distribution capacity at an inclination of 30° of at least 15 g/g and a liquid storage capacity of at least 9% measured through centrifuge retention capacity, for synthetic urine test liquid.

The resulting ability to store gel liquid and have a sufficient absorption rate, liquid distribution capacity and liquid storage capacity is not inherent in the disclosure of *Chen et al.*

The fact that a certain result or characteristic may occur or be present in *Chen et al.* is not sufficient to establish inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993). That is, "[t]o establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations omitted).

Here, the Examiner has asserted that *Chen et al.* "expressly teaches essentially the same process of making the absorbent structure." *Examiner's Answer at Page 7, lines 20-21.*

As stated above, the claimed composition requires optimization of three separate properties, absorption rate, liquid distribution capacity, and liquid storage capacity, while producing a composition with the ability to store gel liquid.

One skilled in the art reading *Chen et al.* would have found a relatively complicated method of making a foam-reinforced fibrous network, in which the strength of the network is optimized to maintain void volume when under load. *See Chen et al., column 1, lines 6-65; column 15, line 49 to column 29, line 17.* Additionally, *Chen et al.* discloses that the foam/fiber composition is open-celled with bimodal pores resulting from both the fibrous structure and from the foam. See *Chen et al.*, column 41, line 25 to column 42, line 5.

One skilled in the art reading *Chen et al.* would not have found any discussion or teaching on how to manipulate process parameters to adjust the pore size to get gel liquid storage capabilities.

Thus, to arrive at the presently claimed invention, one reading *Chen et al.* would have had to manipulate a complex process with multiple parameters in order to optimize at least three properties, absorption rate, liquid distribution capacity, and liquid storage capacity, while producing a composition with the ability to store gel liquid and while being directed by *Chen et al.* to manipulate the strength of the network to maintain void volume when under load. Moreover, as shown in Table 1 of the present specification, variations in the process parameters of Examples 1-3 caused the absorption rate and the liquid distribution capacity to improve while the liquid storage capacity was worsened. *See Specification, page 14.* Thus, optimization of absorption rate, liquid distribution capacity, and liquid storage capacity is not a simple linear optimization but requires a careful balancing while also ensuring that a composition with the ability to store gel liquid is produced.

The Examiner has shown no reasonable support in *Chen et al.* for the determination that adjusting the pore size to get gel liquid storage capabilities while optimizing absorption rate, liquid distribution capacity, and liquid storage capacity necessarily flow from the teaching of *Chen et al.* Yet, this is required to show inherency. *See Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) ("In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.")

Thus, gel liquid storage is not inherent in *Chen et al.*

Conclusion

For the reasons discussed above, Appellant respectfully submits that the Examiner's decision finally rejecting claims 1-2, 4-13, 15 and 20 should be reversed and such action is earnestly solicited.

Respectfully submitted,

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